THOMSON MULTI MEDIA

Brandt FERGUSON SABA **TELEFUNKEN** **THOMSON**

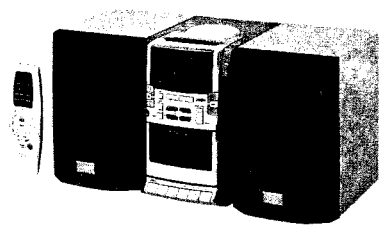
AUDIO

SERVICE MANUAL
DOCUMENTATION TECHNIQUE
TECHNISCHE DOKUMENTATION
DOCUMENTAZIONE TECNICA
DOCUMENTACION TECNICA

THOMSON VTCD 200

Version (PC*) : A

*PC : The version code is indicated either in the battery compartment or on the back of the unit - Ce code version est indiqué dans le compartiment à piles ou au dos de l'appareil - PC : Version des Geräts wird im Batteriefach oder auf der Rückseite angegeben - Il codice della versione è indicato nello scompartimento delle batterie o sul retro dell'apparecchio - El código de la versión está indicado en el compartimento de las pilas o en la parte trasera del aparato.



Technical data - Caractéristiques principales
Technische Daten - Dati tecnici - Caracteristicas del aparato

Type of set : **Type d'appareil :** **Geräteart :** **Tipo d'apparecchio :** **Tipo de aparato :**	Two-in-one horizontal, combination/DAD Ensemble compact stéréophonique/DAD 2er Horizontal Kompaktanlage/DAD Insieme compatto stereofonico/DAD Equipo compacto estereofónico/DAD	↔ 146 mm ↕ 228 mm ↗ 238 mm 2,3 kg	
Power supply : **Alimentation :** **Stromversorgung :** **Alimentazione :** **Alimentación :**	230 V ~ 50Hz	**Nominal output power :** **Puissance nominale de sortie :** **Nennausgangsleistung :** **Potenza nominale di uscita :** **Potencia nominal de salida :**	2 x10 W (music)
	Signal to noise ratio : **Rapport signal / bruit :** **Geräuschspannungsabstand :** **Rapporto segnale / disturbo :** **Relación señal / ruido :** 50 dB	**Sensitivity :** **Sensibilité :** **FM -MF :** 8 µV (S/N = 26 dB) **Empfindlichkeit :** **MW - PO :** 600 µV/m (S/N = 20 dB) **Sensibilità :** **Sensibilidad :**	
	Frequency response : **Courbe de réponse :** **Frequenzgang :** **Curva di risposta :** **Curva de respuesta :** 150 Hz - 6 kHz (-5 dB)	**Signal to noise ratio :** **Rapport signal / bruit :** **Geräuschspannungsabstand :** **Rapporto segnale / disturbo :** **Relación señal / ruido :**	44/46 dB
	Wow and fluttter : **Fluctuations :** **Gleichlauf :** **Fluttuazioni :** **Fluctuaciones :** 0,5 %	→	4,75 cm/S
		<< ▶▶ >> << ◀◀ >>	C60 : 170 S
DAD	**Disc rotation speed :** **Vitesse de rotation du disque :** **CD-Drehgeschwindigkeit :** 200 ➡ 500 tr/m **Velocità di rotazione del disco :** **Velocidad de rotación del disco :**	**Frequency response :** **Courbe de réponse :** **Frequenzgang :** **Curva di risposta :** **Curva de respuesta :**	20 Hz - 20 kHz (±2 dB)
	Dynamic range : **Gamme dynamique :** **Dynamikumfang :** 82 dB **Dinamica :** **Dinámica :**	**Signal to noise ratio :** **Rapport signal / bruit :** **Geräuschspannungsabstand :** **Rapporto segnale / disturbo :** **Relación señal / ruido :**	90 dB

⚠

WARNING : *Before servicing this set read the safety recommendations.*
ATTENTION : *Avant toute intervention sur cet appareil, lire les recommandations de sécurité.*
ACHTUNG : *Bei jedem Eingriff in das Gerät, die Sicherheitsvorschriften beachten.*
ATTENZIONE : *Prima di intervenire sull'apparecchio, leggere le norme di sicurezza.*
IMPORTANTE : *Antes de cualquier intervención, leer las recomendaciones de seguridad.*

Code : 350 730 60 - 1198 / 4,1M - CRKD2325 Print.

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CLASS 1 LASER PRODUCT
APPAREIL A LASER DE CLASSE 1
LASER KLASSE 1
APARATO CON LASER DE CLASE 1
APPARECCHIO CON LASER DI CLASSE 1

DANGER : **Invisible laser radiation when open and interlock failed or defeated. Avoid direct exposure to beam.**

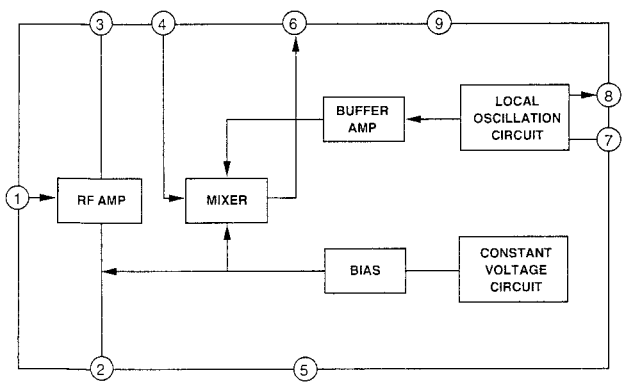
ATTENTION : **Le rayon laser est invisible. Eviter l'exposition directe lors de la maintenance.**

VORSICHT BEI REPARATUREN : **Bei geöffneter Schublade und Defekt der Sicherheits-vorrichtungen besteht die Gefahr unsichtbaren Laserlichts. Niemals direkt in den Laserstrahl sehen.**

ATTENZIONE : **Il raggio laser è invisibile. Evitare l'esposizione diretta durante la manutenzione.**

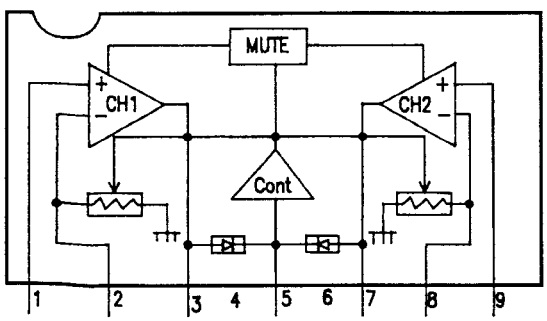
IMPORTANTE : **El rayo laser es invisible. Evitar la exposición directa en el momento del mantenimiento.**

IC 101 TA 7358

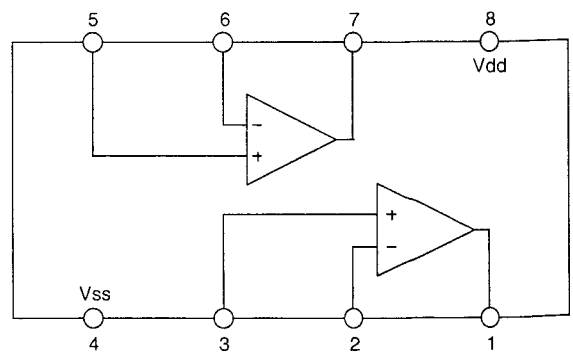


IC102	FM	AM		FM	AM
1	2	2	13	1,4	1,4
2	0,5	0,5	14	3,7	4,8
3	0	0	15	3,3	4
4	2	2	16	3	0
5	4,5	5	17	1,4	1,4
6	4,5	5,3	18	–	–
7	1,1	0,4	19	1,3	1,4
8	0	0	20	1,1	1,9
9	0	0	21	2	2
10	0	0	22	2	2
11	5,3	5,3	23	5	5,4
12	1,4	1,4	24	2	2

IC 201 BA 3308

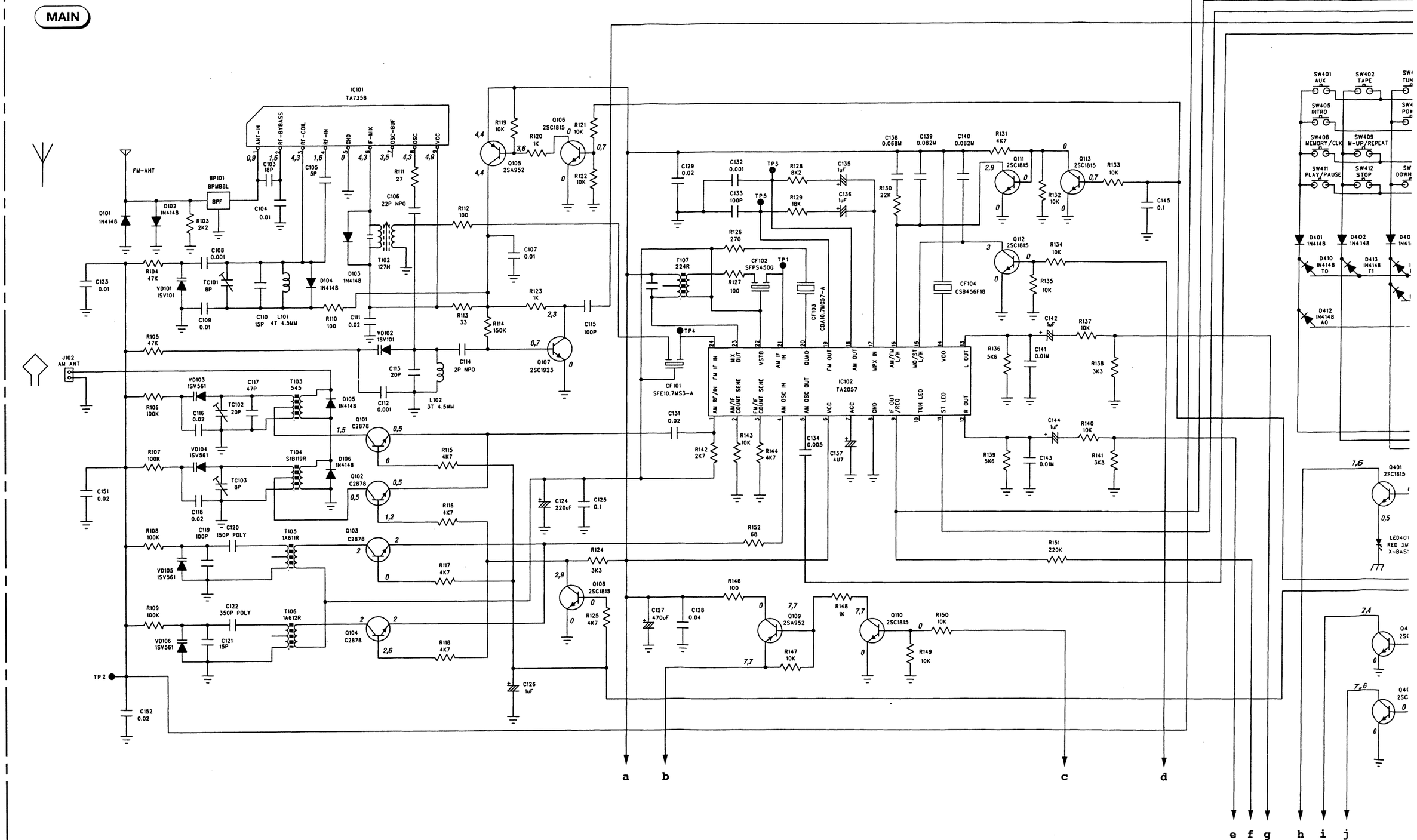


IC 4 BA 4558 N



CRKD2325
First issue 11/98

MAIN SCHEMATIC DIAGRAM - SCHEMA DE LA PLATINE PRINCIPALE - SCHALTBILD GRUNDPLATTE - SCHEMA DELLA PIASTRA PRINCIPALE- ESQUEMA DE LA PLATINA PRINCIPAL



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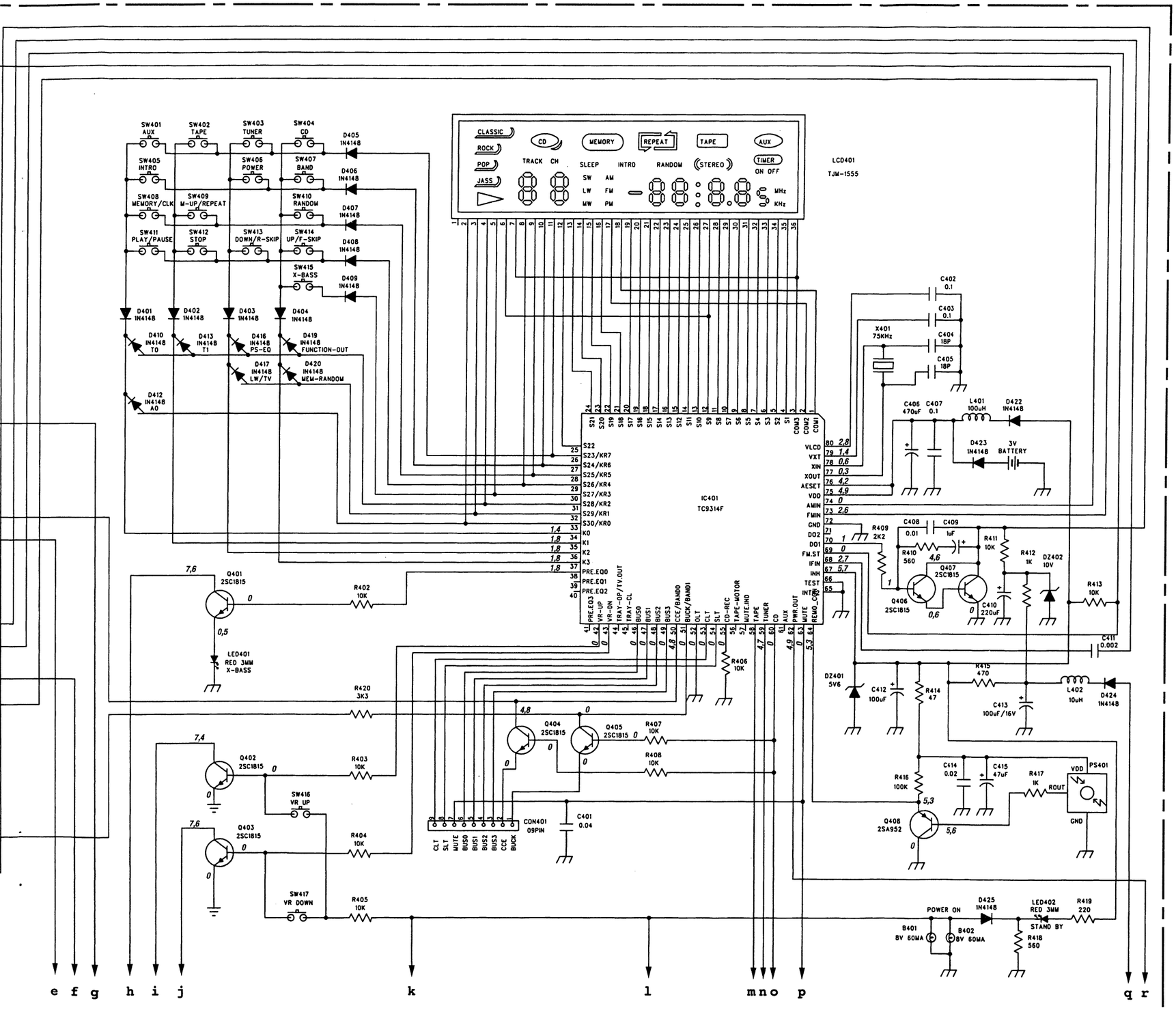
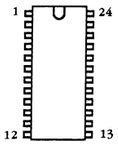
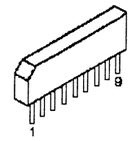
First issue 11/98

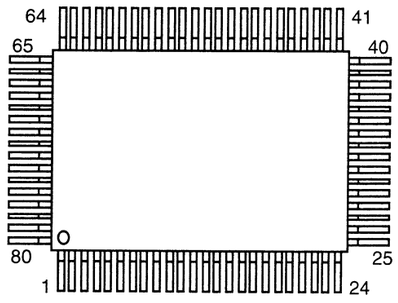




TA 2057



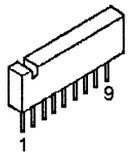
TA 7358



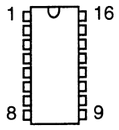
TC 9314 F
TC 9284 BF

2 SC 1815
2 SA 1015
9013
2 SB 562
A 952
C 2878
C 1923

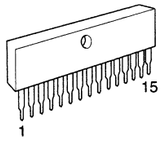
MAIN SCHEMATIC DIAGRAM - SCHEMA DE LA PLATINE PRINCIPALE - SCHALTBILD GRUNDPLATTE - SCHEMA DELLA PIASTRA PRINCIPALE- ESQUEMA D



BA 3308

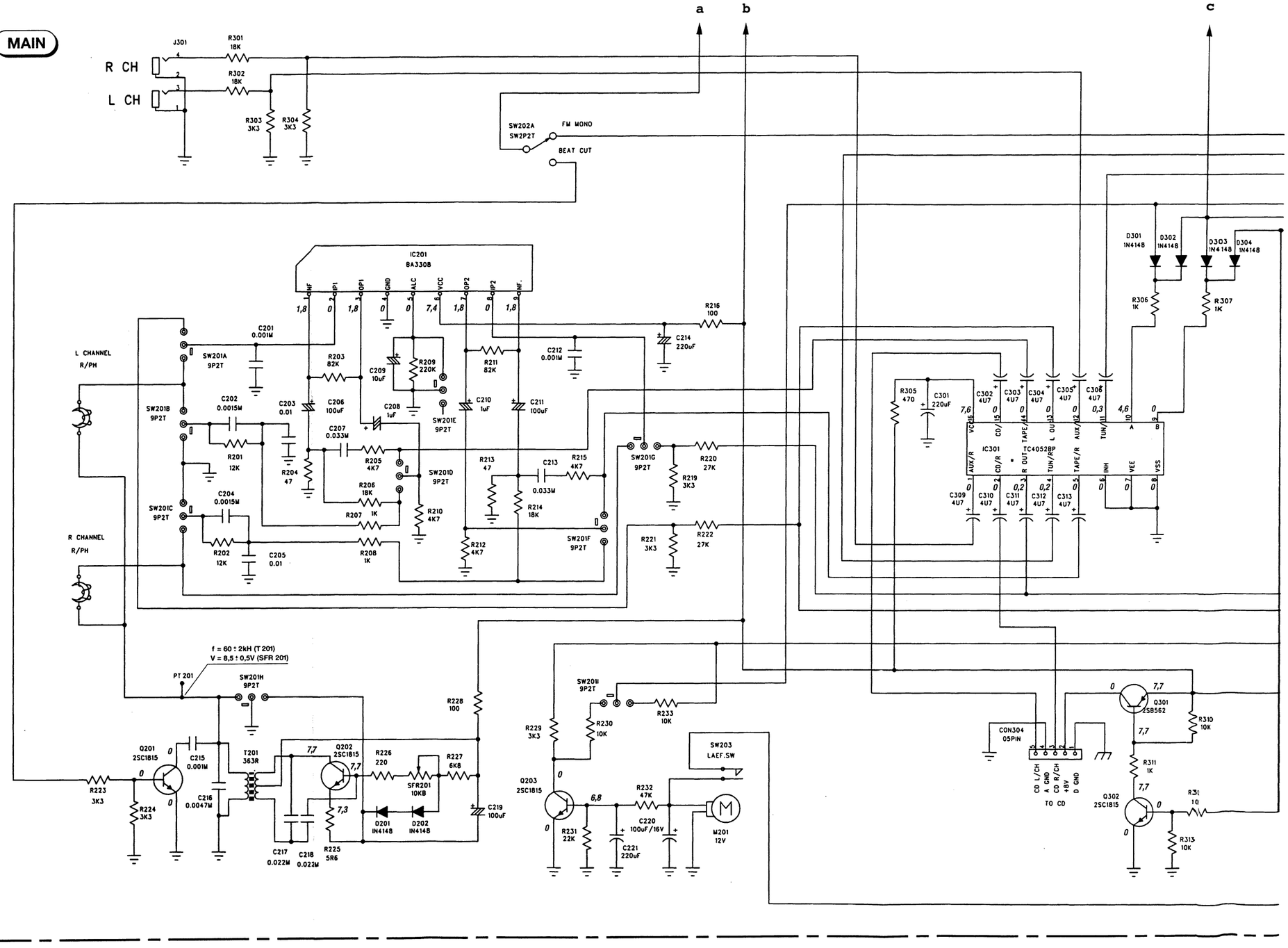


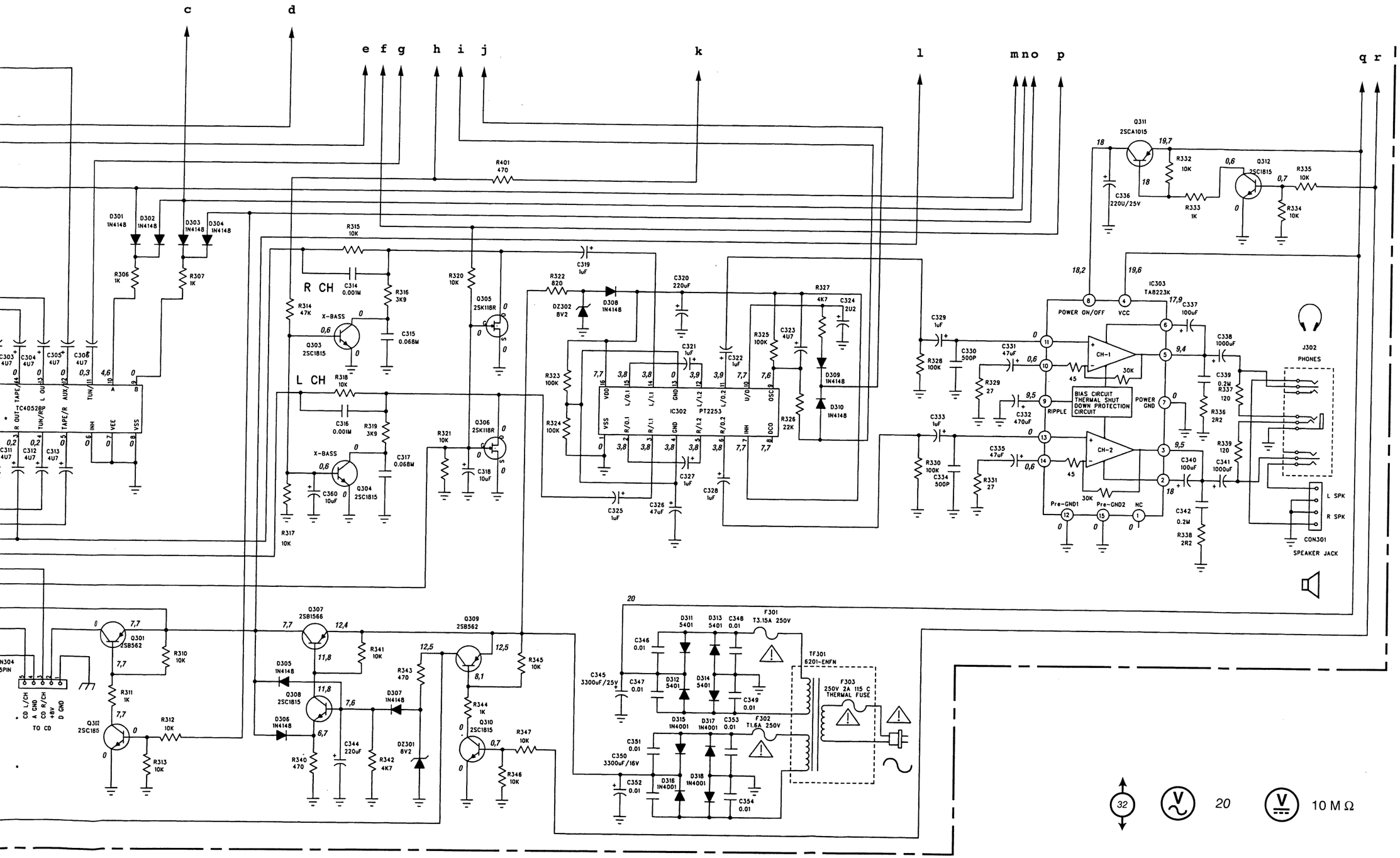
TC 4052 BP
PT 2253



TA 8223

2 SB 1566





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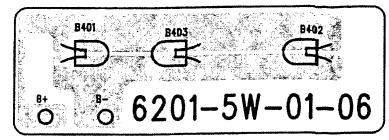
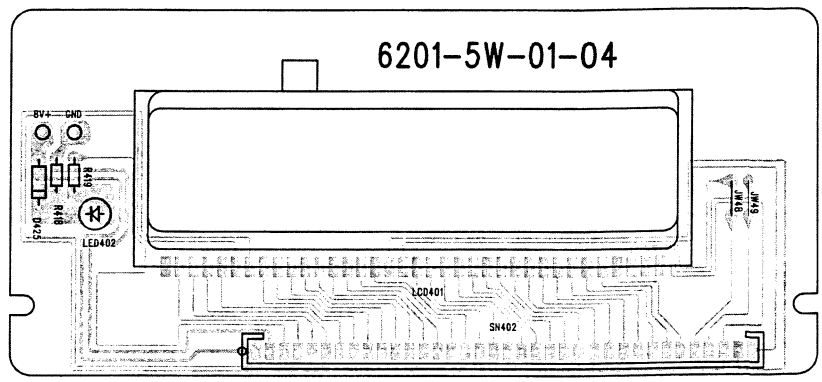
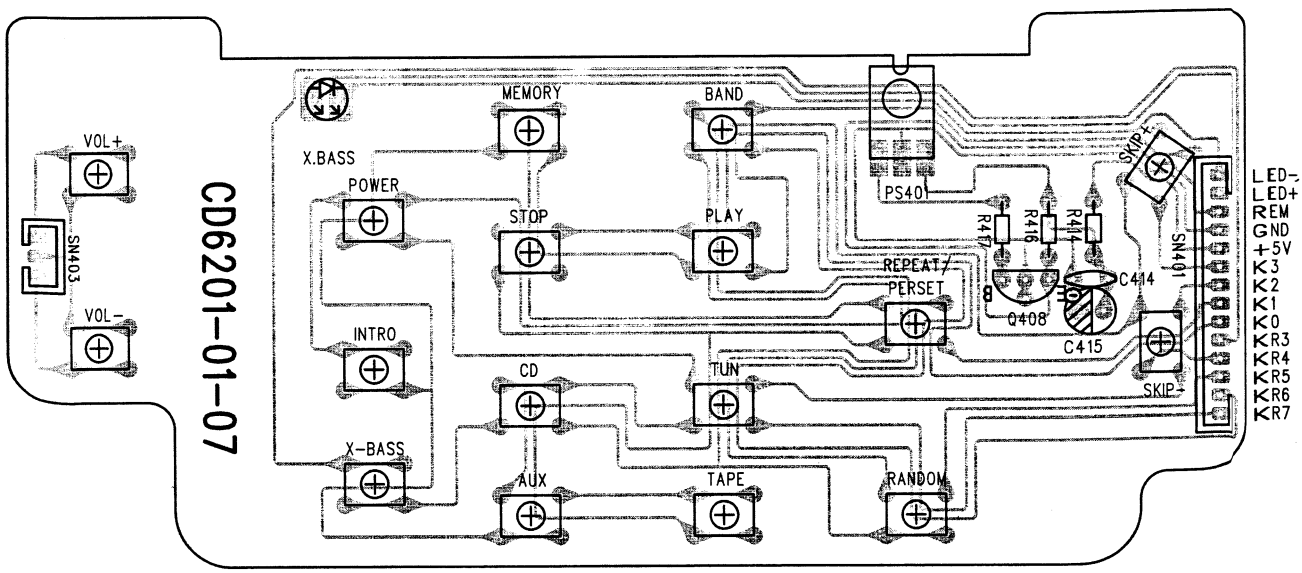
Led P.C.B.
Platine Led
Ltpl. Led
Piastra Led
Platina Led



Controls / display P.C.B.
Platine commandes / afficheurs
Ltpl. Bedienteil / Anzeige
Piastra comandi / indicatore
Platina de mandos / indicadores



Controls P.C.B.
Platine commandes
Ltpl. Bedienteil
Piastra comandi
Platina de mandos



ADJUSTMENTS - REGLAGES - EINSTELLUNGEN - REGOLAZIONI - AJUSTES

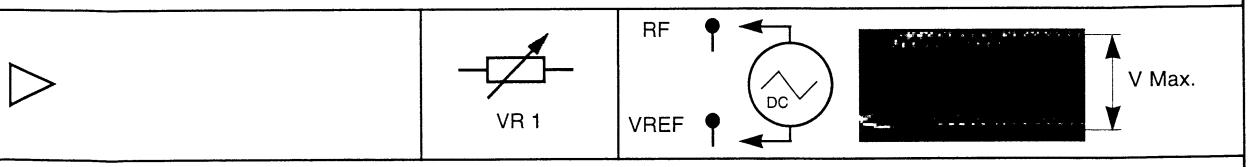
AM alignment

		Gf	f	18888 KHZ		
IF	1	Ve 10-100 mV	450 kHz ± 3 kHz	450 kHz	T107	TP1 max.
LW GO	2	Gf	146 kHz	146 kHz	T105	TP2 V = 2,1V ±0,05 V
	3	Gf	164 kHz	164 kHz	T103	TP3 max.
	4	Gf	272 kHz	272 kHz	TC102	TP3 max.
MW PO	5	Ve > 1500 µ V/m	522 kHz	522 kHz	T106	TP2 V = 1,6V ±0,05 V
	6	Ve > 1500 µ V/m	612 kHz ± 10 kHz	612 kHz	T104	TP3 max.
	7	Ve > 1500 µ V/m	1404 kHz	1404 kHz	TC103	TP3 max.

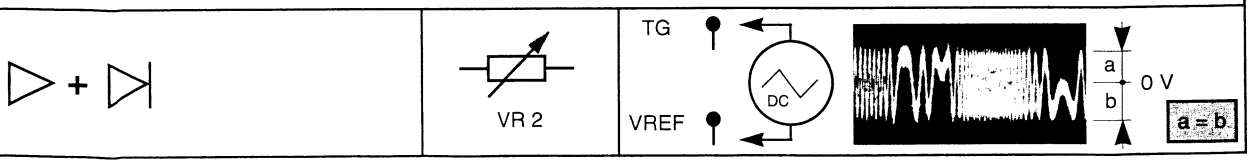
FM alignment

		Gf	f	18888 KHZ		
Osc	1			87,5 MHz	L102	TP2 V = 2,8V ± 205V
IF	2	Gf Ve = 1 mV	10.7 MHz	10.7 MHz	T102	TP4 max.
FM	3	Gf Ve = 1 mV		90 MHz	L101	TP5 max.
	4	Gf Ve = 1 mV		105 MHz	TC101	TP5 max.

FOCUS OFFSET

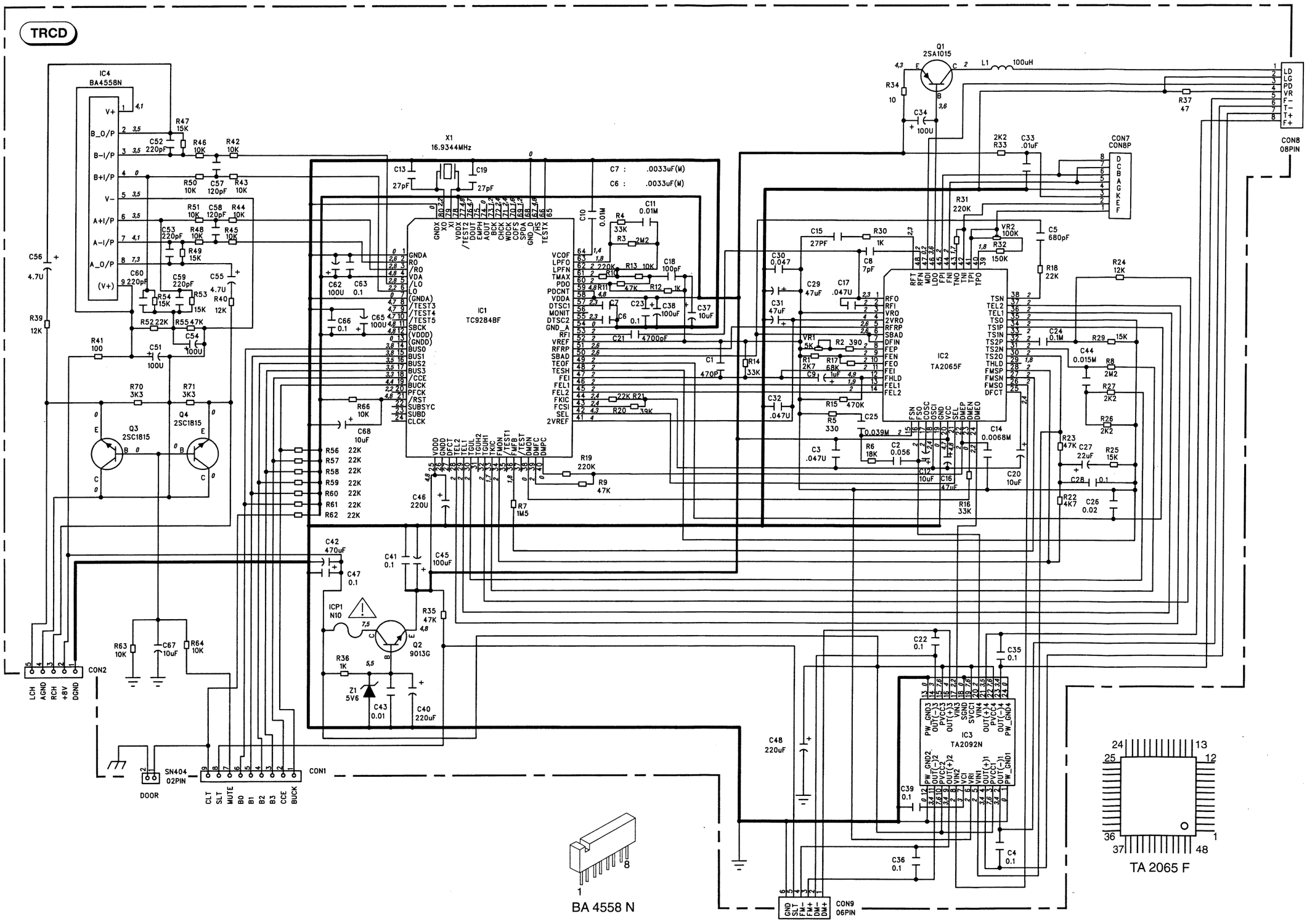


TRACKING OFFSET

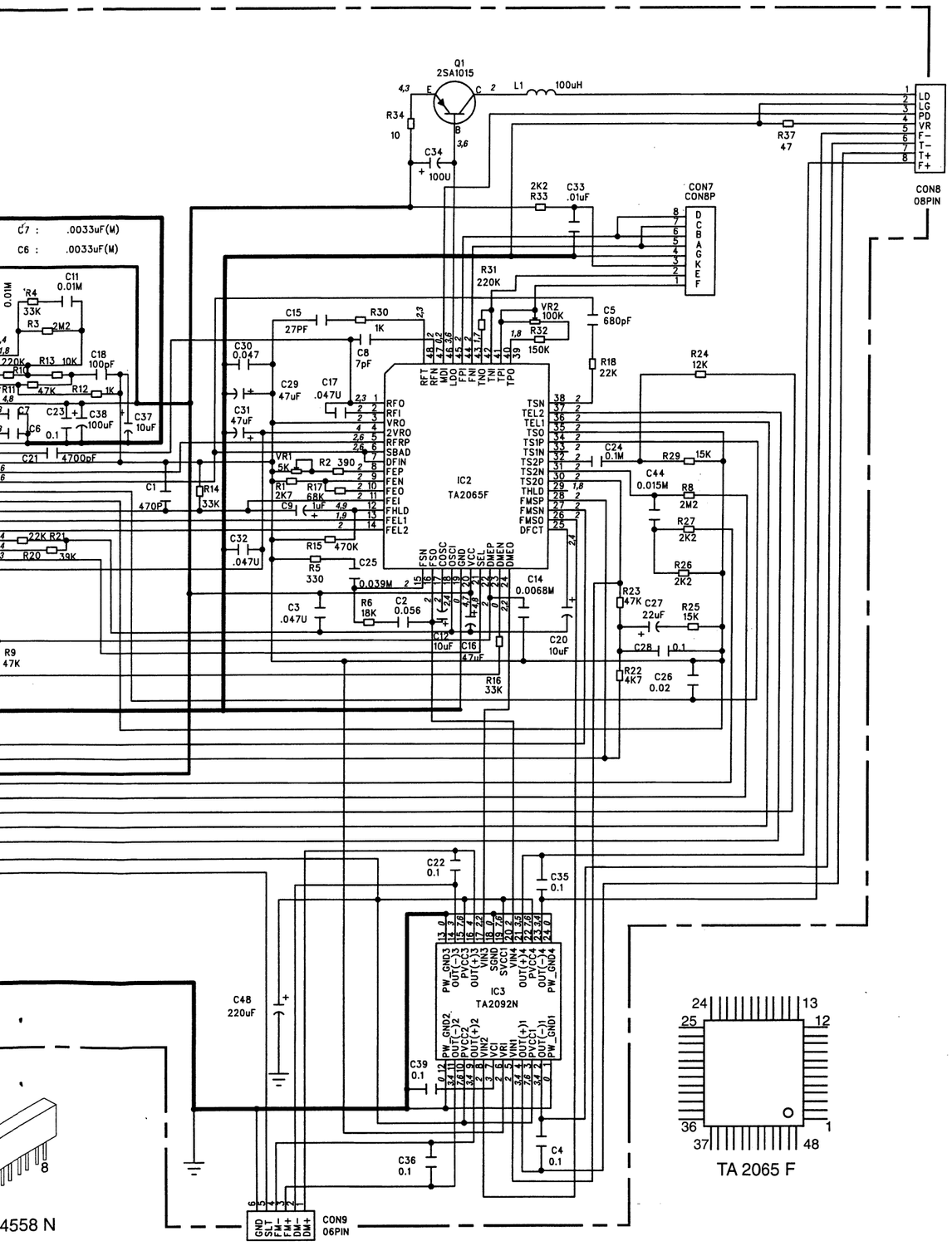


DIGITAL PROCESSING SCHEMATIC DIAGRAM - SCHEMA DU TRAITEMENT DIGITAL - SCHALTBILD DIGITALVERARBEITUNG - SCHEMA ELABORAZIONE DIGITALE - ESQUEMA DEL TRATAMIENTO DIGITAL

TRCD



ITAL - SCHALTBILD DIGITALVERARBEITUNG - SCHEMA ELABORAZIONE DIGITALE -

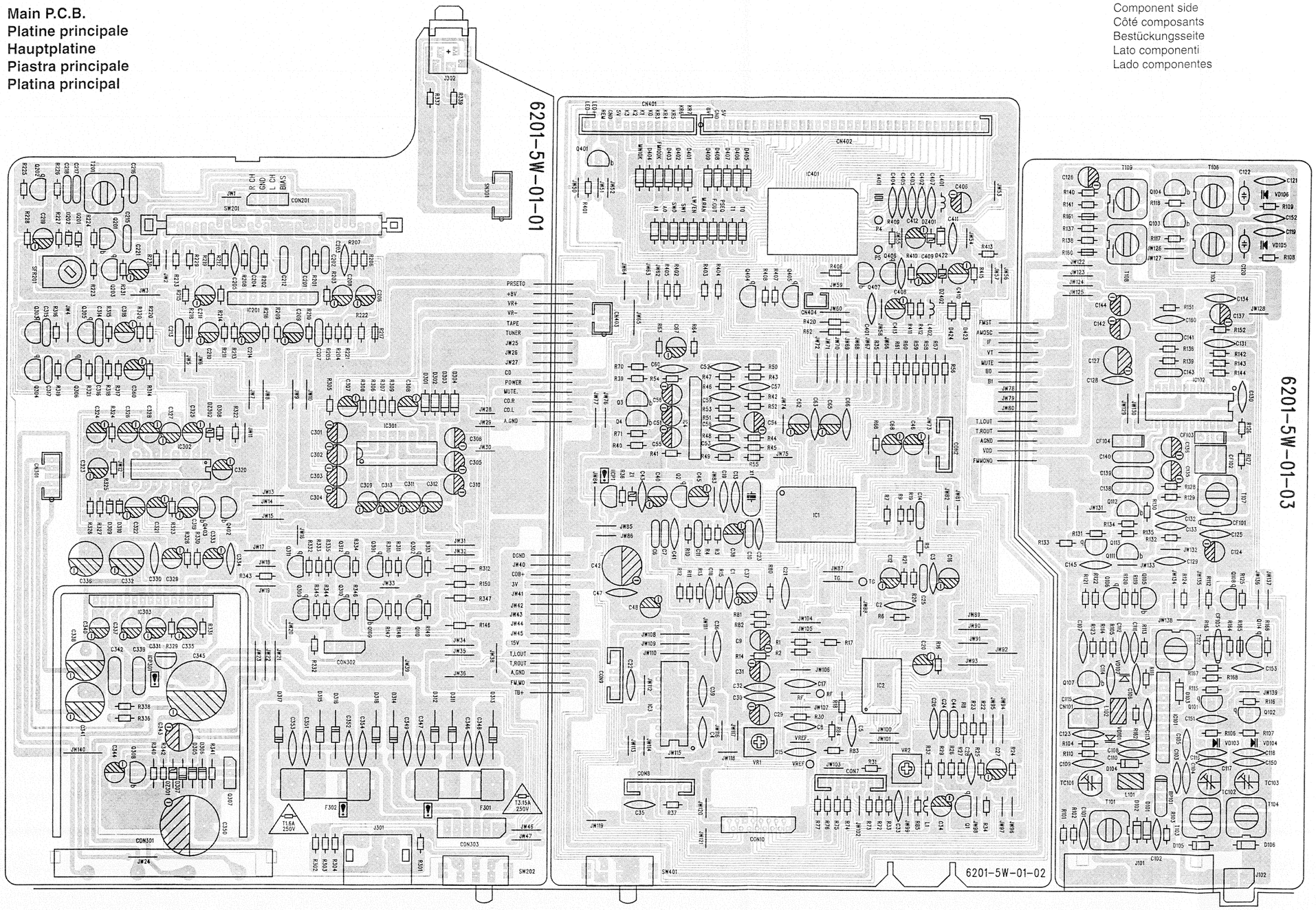


ABBREVIATIONS - ABREVIATIONS - ABKÜRZUNGEN - ABREVIAZIONI - ABREVIACIÓN

AFOK	When focus is OK on first search
AIN1	Left-channel operational amplifier input.
AOUT1	Left-channel analog output.
ASW	Slice level
ASY	Slice level of EFM signal
ASYI	Asymmetry comparator voltage input.
ASYO	EFM full-swing output (low = Vss, high = Vdd).
ATSC	Window comparator input for ATSC detection.
BCK	D/A interface. Bit clock output.
BCKI	D/A interface. Bit clock intput.
BIAS	Constant current input of the asymmetry circuit.
C.OUT	Track number count signal output.
C210	Bit clock output 4,2336 MHz / 2,1168 MHz
C2PO	C2PO output.
C4M	4.2336MHz output. 1/4 frequency-divided VCKI output in CAV-W mode
CB	Connects the defect bottom hold capacitor.
CC1	Defect bottom hold output. Connected internally to the interruption comparator input.
CC2	Input for the defect bottom hold output with capacitance coupled.
CLK	Serial data transfer clock input from CPU. (no pull-up resistance)
CLKO	Serial data transfer clock output.
CLTV	Master VCO control voltage input.
CNIN	Track jump count signal input.
CP	Connects the MIRR hold capacitor. MIRR comparator non-inverted input.
DATA	Serial data input CPU. (no pull-up resistance)
DATO	Serial data ouput
DEEMP	Deemphasis
DIG	Dig output for LED.
DM	Disc motor
DOTX	Digital output
E	Connects these pins to photo diodes F and E. F I-V and E I-V amplifier inverted input.
EFM	HF signal to decoder
EMPHI	Inputs a high signal when de-emphasis is on, and a low signal when de-emphasis is off.
EXCK	SBSO read out clock input.
F	Connects these pins to photo diodes F and E. F I-V and E I-V amplifier inverted input.
F ZC	Focus zero-cross comparator input.
FA	Focus actuator
FDFCT	Connects the capacitor for defect time constant.
FE	Focus error signal
FE-M	Focus amplifier inverted input.
FE-O	Focus drive output.
FEB	Focus servo bias
FEED	Feed motor
FEI	Focus error input.
FEO	Focus error amplifier output. Connected internally to the window comparator input for bias adjustment;
FE_Bias	Focus servo bias
FF	Fast forward tracking control
FGD	Ground this pin through a capacitor for cutting the focus servo high-frequency gain.
FILI	Master PLL filter input.
FILO	Master PLL (slave-digital PLL) filter output.
FLB	External time constant setting pin for boosting the focus servo low-frequency.
FO	Focus actuator O/P
FOK	Focus OK comparator output.
FOK	Focus OK input. Used for SENS output and the servo auto sequencer.
FR	Fast rewind tracking control
FSET	Peak frequency setting pin for focus and tracking phase compensator amplifier.
FSR	Focus search
GFS	GFS output.
GTPO	GTPO output.
ISET	Connects the external capacitor to set the current which determines the Focus
J F	Track. servo front jump
J R	Track. servo rear jump
LD	APC amplifier output.
LDON	Laser diode on
LPF1	Comparator input for balance adjusement. (input from TEO through LPF)
LRCK	D/A interface. LRclock output f = fs.
LRCKI	LR clock input.
MDP	Spindle motor servo control.
MDS	Spindle motor servo control.
MIRR	Mirror detection
MNT0	MNT0 output.
MNT1	MNT1 output.
MNT3	MNT3 output.
MON	Spindle motor on/off control output.
MUT	AF.Muting
MUTG	Muting
OTD	Off track detector
PCMD	D/A interface. Serial data output (two's complement, MSB first).
PCMDI	D/A interface. Serial data intput (two's complement, MSB first).
PCO	Master PLL charge pump output.
PD	APC amplifier input.
PD1	RF I-V amplifier inverted input. Connect these pins to the photo diode A + C and B + D pins.
PD2	RF I-V amplifier inverted input. Connect these pins to the photo diode A + C and B + D pins.
PORE	Power on reset enable input
RA	Radial actuator O/P
RAB	Interface R/W and aknoledge input
RDO	Radial detector signal
RF	EFM signal input.
RF-I	Input for the RF summing amplifier output with capacitance coupled.
RF-M	RF summing amplifier inverted input. the RF amplifier gain is determined by the resistance connected between the pin and RFO pin.
RF-O	RF summing amplifier output. Eyepattern check point.
RFCK	RFCK output.
RFTC	External time constant setting pin during RF level control.
SBSO	Sub P to W serial output.
SCOR	Output a high signal when either subcode sync S0 or S1 is detected.
SEG3	Sef 3 output for LED.
SEIN	SENS input from SGP
SENS1	Outputs FZC, DFCT1, TZC, BALH, TGH, FOH, ATSC, and others according to the CPU.
SENS2	Outputs DFCT2, MIRR, BALL, TGL, FOL, and others according to the command from the CPU.
SICL	Serial interface clock
SIDA	Serial interface data
SILD	Serial interface load
SL	Sledge O/P
SL-M	Sled amplifier inverted input.
SL-O	Sled drive output.
SL-P	Sled amplifier non-inverted input.
SLED	Sled motor
SLEND	End of slider stroke signal
SLIN	Slider closing control
SLOUT	Slider opening control
SPDL	Spindle motor
SQCK	Subcode Q clock
SRCH	External time constant setting pin for generating focus search waveform.
SUBQ	Subcode Q
TA	Tracking actuator
TA-M	Tracking amplifier inverted input.
TA-O	Tracking drive output.
TDFCT	Connects the capacitor for defect time constant.
TE	Tracking error signal
TEO	Tracking error amplifier output.E-F signal is output.
TG2	External time constant setting pin for switching tracking high-frequency gain.
TGU	External time constant setting pin for switching tracking high-frequency gain.
TM	Tracking motor
TRAY	Tray motor
TZC	Tracking zero-cross comparator.
V16M	VCO2 oscillation output for the wide-band EFM PLL.
V4	Versatile O/P pin
VCKI	VCO2 oscillation input for the wide-band EFM PLL.
VCTL	VCO2 control voltage input for the wide-band EFM PLL.
Vee	Negative power supply.
WFCK	WFCK output.
XLT	Latch input from CPU. (no pull-up resistance)
XLTO	Serial data latch output
XPCK	XPLCK output.
XROF	XRAOF output.
XRST	Reset input; resets at Low. (no pull-up resistance)
XRST	System reset.
XRSTO	Reset output.
XTAI	Crystal oscillation input. Input the external master clock via this pin.

Main P.C.B.
Platine principale
Hauptplatine
Piastra principale
Platina principal

Component side
Côté composants
Bestückungsseite
Lato componenti
Lado componentes



THOMSON
Sales Port
Avenida da
4106 Porto
Tel. : (2) 618

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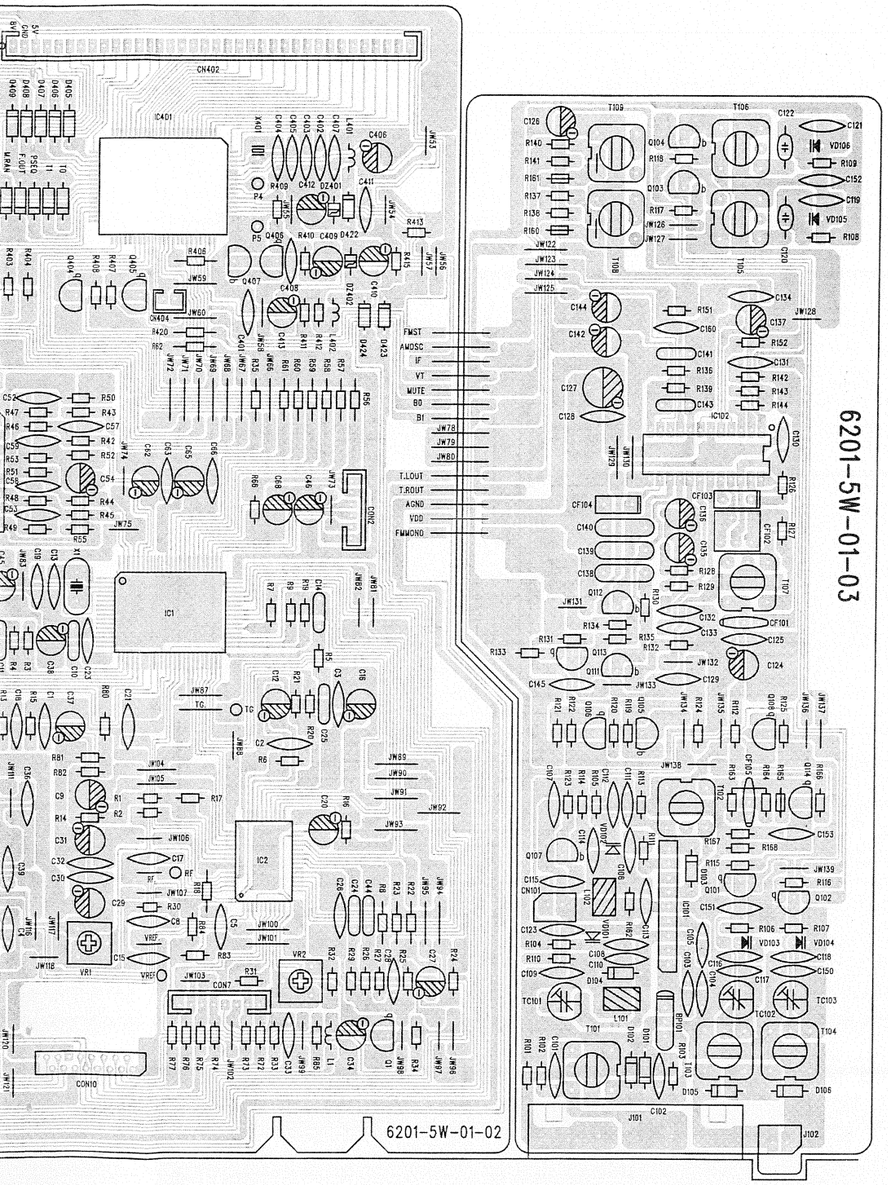
Component side
Côté composants
Bestückungsseite
Lato componenti
Lado componentes



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Documentation technique exclusivement destinée aux professionnels de la maintenance
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Documentación técnica destinada exclusivamente a los profesionales de mantenimiento

THOMSON multimedia
Scandinavia AB
Florettgatan 29 C
S-25467 Helsingborg (Sweden)
Tel. : 042 25 75 00

THOMSON multimedia
Sales UK Limited
Crown Road
Enfield, Middlesex EN1 1DZ (England)
Tel. : 0181 344 4444

THOMSON multimedia
Sales Germany GmbH & Co OHG
Karl-Wiechert-Allee 74
30625 Hannover

THOMSON multimedia
Poland
ul.Gen.L. Okulickiego 7/9
05-500 Piaseczno (Varsovie)
Tel. : (22) 757 10 80

THOMSON multimedia
Marketing France
46, quai Alphonse Le Gallo
92648 Boulogne cedex
Tel. : 01 41 86 60 00
Minitel : 3616 ou 3623 TCEDS

THOMSON multimedia
Czech s.r.o.
ul. Dopravaku - dum Genius 1
Dolni Chabry
CZ - 18400 Prague 8
Tel. : (2) 688 67 70

THOMSON multimedia
Hungary KFT
Radnoti Miklos utca 2
1137 Budapest
Tel. : (1) 131 09 32

THOMSON multimedia
Switzerland
Seewenweg 5
CH-4153 Reinach
Tel. : (61) 716 96 60

THOMSON multimedia
Austria GmbH
Jochen-Rindt Strasse 25
A-1230 Wien
Tel. : (0222) 615 70 70

THOMSON multimedia
Sales Portugal
Avenida da Boavista, 3521
4106 Porto
Tel. : (2) 618 76 41

THOMSON multimedia
Sales Italy S.p.A.
Via Leonardo da Vinci,43
20090 Trezzano sul Naviglio (Milano)
Tel. : (02) 48 41 43 20

THOMSON multimedia
Sales Spain
Avenida de Burgos 8A
28036 Madrid
Tel. : (91) 384 14 19

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